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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/938,173	09/26/1997	ALEXANDER BROCKHOFF	P61957	2574

7590 04/23/2002  
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EXAMINER

KIM, SUN U

ART UNIT	PAPER NUMBER
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1723

DATE MAILED: 04/23/2002

34

Please find below and/or attached an Office communication concerning this application or proceeding.

MF-34

**Office Action Summary**Application No.  
**09/938,173**Applicant(s)  
**Brockhoff**Examiner  
**John Kim**Art Unit  
**1723**

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on Feb 1, 2002
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 22-30 is/are pending in the application.
- 4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 22-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. § 119**

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some\* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

**Attachment(s)**

- 15) ☒ Notice of References Cited (PTO-892)                      18) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      19) ☐ Notice of Informal Patent Application (PTO-152)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_                      20) ☐ Other: \_\_\_\_\_

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1. Substitute declaration filed 3/5/02 accompanying the letter (Paper No. 33) is deemed proper.

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 26-27 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The original specification does not describe that the rib has "a fixed pitch" or "a variable pitch".

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 22-23, 25 and 27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Recitations of "said inlet channel" and "said chamber interior wall" in claims 22-23 and "said input" in claims 25 and 27 lack positive antecedent basis.

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

7. Claims 22-30 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 5,824,212 (hereinafter referred to as Brockhoff). Brockhoff teaches a method of using cyclone apparatus comprising a housing having an input channel (2) and an outlet channels (10, 12) being concentric along a housing axis arranged in following order: an input channel (2), chamber section, eddy chamber (16), an outlet channel (10, 12), an insert body (8) in chamber section and extending into the eddy chamber, at least one helical rib (26) extending between the insert body (8) and an interior wall of the chamber section forming a helical grooves (24) and a gas outlet (12) located along the axis in the eddy chamber and a liquid outlet (10) near the center axis of the flow wherein helical groove can have constant cross sectional area as well as decreasing cross-sectional area from the input channel (2) toward the outlet channel (10, 12) and ribs (24) have either fixed or variable pitches and eddy chamber (16) has a cross sectional that gradually increases toward the gas outlet (12) (see figures 1-4; col. 2, line 57 - col. 3, line 58).

8. Claims 22-24 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Great Britain Patent 1,352,166 (hereinafter referred to as GB '166). GB '166 teaches a device for removing gas from a liquid a housing having an input channel (2) and an outlet channel (3) being concentric along a housing axis arranged in following order: an input channel (2), chamber section (4), eddy chamber, an outlet channel (3), an insert body (5) in chamber section and extending into

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the eddy chamber, at least one helical rib (6) extending between the insert body (5) and an interior wall of the chamber section forming a helical grooves and a gas outlet (8) located along the axis in the eddy chamber and a liquid outlet (3) near the center axis of the flow wherein helical groove can have constant cross sectional area and ribs (24) have fixed pitch (see figure; page 1, line 63 - page 2, line 31).

9. Claims 25 and 28-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over GB '166 as applied to claims 22-23 above, and further in view of Japanese Patent No. 49-15341 (hereinafter referred to as JP '341. Claim 25 essentially differs from the device of GB '166 in reciting that helical groove has a cross sectional area that decreases from the input channel toward the outlet channel. JP '341 teaches a cyclone device for removing gas from liquid comprising a non-rotating eddy chamber (1) having an inlet and an outlet for producing a cyclone eddy current that separates gas from liquid where gas is removed through an outlet (5) in a radially inner cyclone eddy current region, a cyclone inlet comprising multiple wings supporting and attached to an inserted body, streamline shaped wherein shape causes a narrowing funnel shape of liquid inlet channel and causes a widening funnel shape of eddy chamber in a housing with constant diameter and gas outlet (5) and a portion of liquid outlet (1) positioned in a coaxial manner downstream from a cyclone outlet, the blood inlet channel and the eddy chamber having respectively aligned center lines, the cyclone outlet for liquid phase and the eddy chamber having respectively aligned center lines (see figure 1). It would have been obvious to a person of ordinary skill in the art to modify the insert body of GB '166 to an insert body streamline shaped wherein shape causes a

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narrowing funnel shape of liquid inlet channel in a housing with constant diameter such that the liquid in the helical groove will accelerate to better separate gas from the liquid. Claims 28-29 essentially differ from the device of GB '166 in reciting that the eddy chamber has a cross sectional area that gradually increases toward the gas inlet. It would have been obvious to a person of ordinary skill in the art to modify the insert body of GB '166 to an insert body streamline shaped wherein shape causes a widening funnel shape of eddy chamber in a housing with constant diameter such that the gas in the eddy chamber will be better collected toward the gas outlet along the center of the housing axis.

10. Applicant is advised that should claims 22 and 28 be found allowable, claims 23 and 29 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

11. Applicant's arguments with respect to claims 22-30 have been considered but are moot in view of the new ground(s) of rejection.

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. UK Patent Application GB 2063108A teaches a blood degassing device with helical flow paths.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Kim whose telephone number is (703) 308-2350. The examiner can normally be reached on weekdays from 7:00 AM - 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker, can be reached on (703) 308-0457. The fax phone number for official response after final action is (703) 872-9311, and the fax phone number for all other official faxes is (703) 872-9310.

When sending a draft amendment by fax, please mark the paper as "DRAFT"; otherwise, mark the paper "OFFICIAL". This will expedite the processing of the paper.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0651.

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**John Kim**  
**Primary Examiner**  
**Art Unit 1723**

J. Kim  
April 22, 2002